CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The research methodology adopted is the general pattern of organizing the procedure for collecting valid and reliable data for an investigation. It gives a detailed description of the research procedures that are followed during the investigation. The research methodology followed for the present investigation is discussed in detail in this chapter.

The research method used in the present study evolved five (5) stages. The first is the ***Desk top Study***, which is the identification process or the narrowing down process of the study area through various maps such as land use maps, topographical maps and also road maps from ***Jabatan Perancangan Majlis Bandaraya Ampang***. The second stage is the ***Site Selection Criteria***, which is used as the bases to select the right residential for this study. Next is the ***Preliminary Site observation*** where each selected residential JKR U2/U3 roads which have been deteriorated is identified and vetted through to finalize a suitable sample. The fourth stage is the ***Data Collection*** where the data were recorded while travelling on the selected roads JKR U2/U3 using the observation method. Finally, ***Statistical Analysis*** using a multiple regression is conducted to develop the models. The developed models need to be validated to evaluate the accuracy of the models. Figure 3.1 presents the flowchart of the research methodology.

The main focus of this chapter is to present a systematic flow of the entire design of the research process. Researcher present a case study of the experiences of heavy trucks as they conduct their daily routine of using local roads (JKR U2/U3 Roads)

Simply put, this study is an attempt to understand how pavement damage experience and respond to trucks drivers behavior.

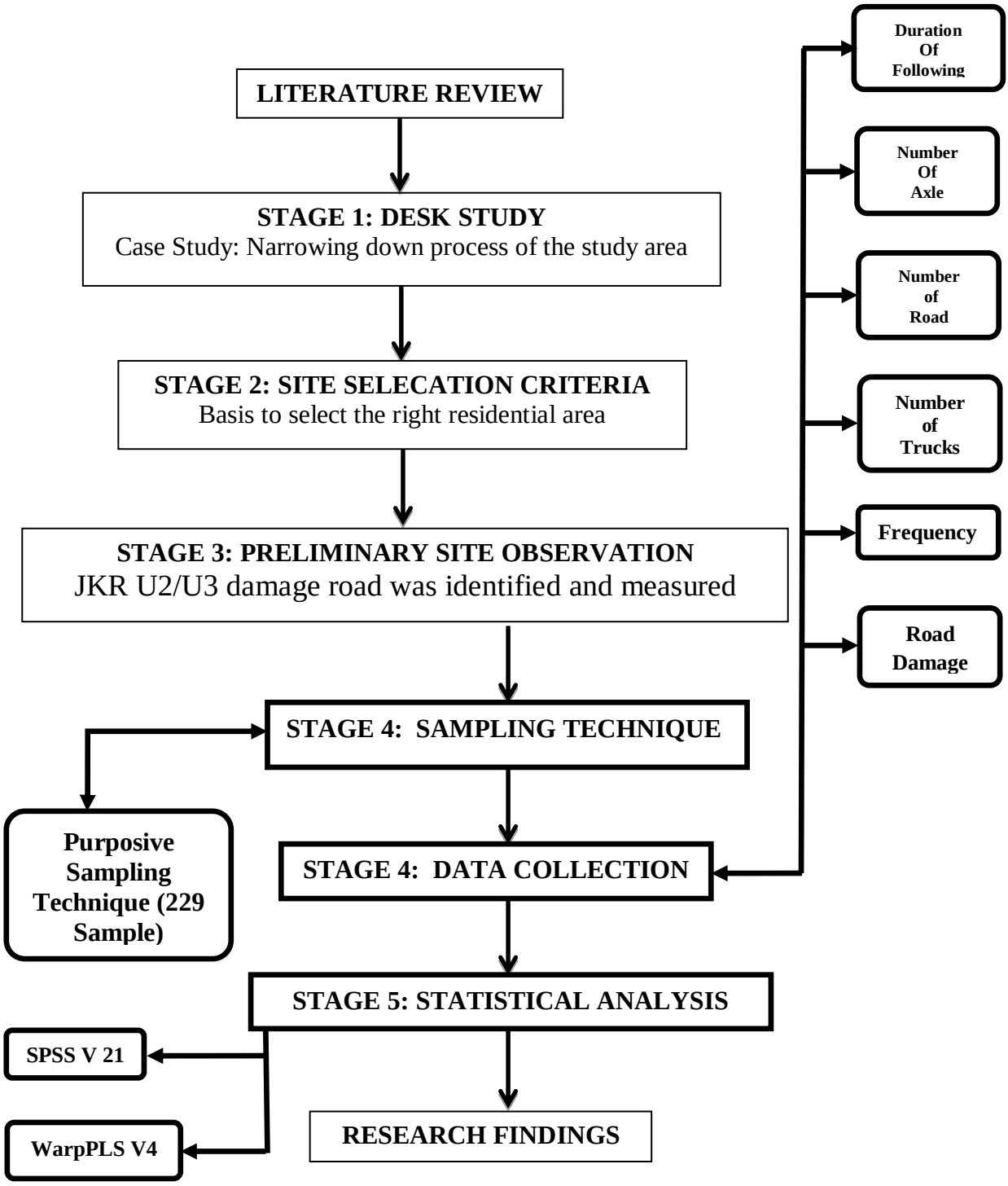

Figure 3.1 Flowchart Illustrating the Research Methodology

3.2 DESKTOP STUDY

From the desktop study finding, it was found that the trucks came from Access/intercity roads to enter the local roads/Ampang area, and by looking at the Google map and driving through the Ampang area it was found that the MMR2, Ampang Kuala Lumpur Elevated highway and Jalan Ampang were the reason behind accessing the local roads. The figure 3.2 below shows Access/Intercity from these roads to Ampang area. Meanwhile, the result from the study could be effectively used to research the effect of heavy vehicle trafficking from the perspective of various drivers' perceptions and behaviors. The desktop study also revealed that the targeted locations are suitable as the sample and the deteriorated road areas are residential areas that occupy most of the city, Figure 3.3 Residential Area and other Facilities for the Study Area, JKR U2/U3 Roads in this area were selected as listed in the table 3.1 below.

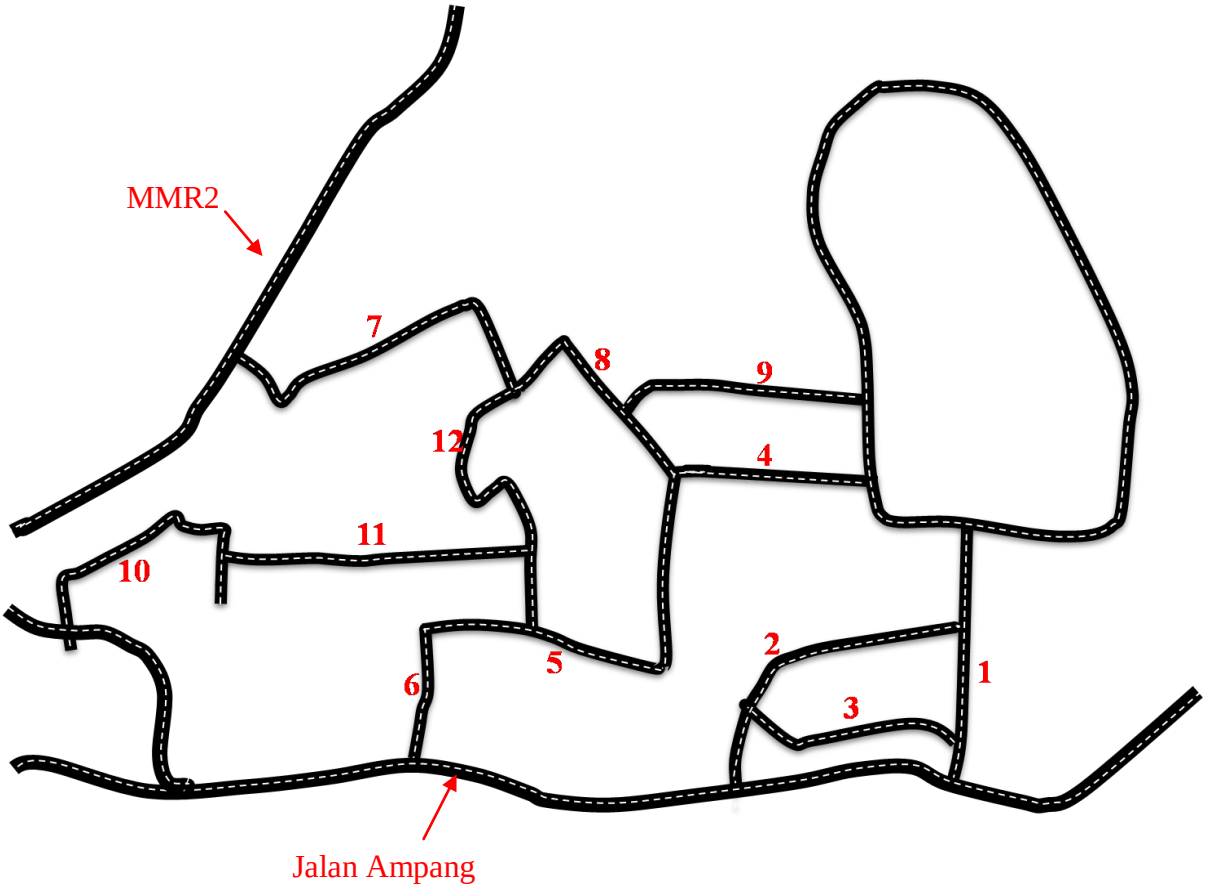

Figure 3.2 shows the Access to the Ampang area from both MMR2 and Elevated Highway